

.INITIAL REVIEW EXPOSURE REPORT		L-08-0037		Page 1 of: /0	
Assessor: <i>Delpire</i>			Search ()Y		Focus Date: <i>11/20/07</i>
SAT	Health: <i>H</i>			SAT Date: 11/02/07	
	Eco: <i>H</i>			SAT Rep:	
Submitter: [REDACTED]			Max. PV (kg/yr)	[REDACTED]	Manuf. Import
Use: [REDACTED]					
[REDACTED]			[REDACTED]		
Chemical Name: [REDACTED]					
Trade Name: [REDACTED]			Nano:	CAS: [REDACTED]	
Structure Comments:					
Structure: [REDACTED]					

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EPI ESTIMATIONS

OECD 301D(Closed Btl): 22%/28d NRB.

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			CATEGORY			
		RATING	1	2	3	4
ANAEROBIC BIODEGRADATION	Ultimate		<= days	weeks	months	> months
	Primary		<= days	weeks	months	> months

Comments:

	HYDRO (da)					
HYDROLYSIS	338	A.	<= mins	hours	days	=> months
(t(1/2) @ pH 7, 25 °C)		B.	<= mins	hours	days	=> months

Comments:

SORPTION TO SOIL & SEDIMENT		v.strong	strong	moderate	low
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Comments:

MIGRATION TO GROUND WATER		negl	slow	moderate	rapid
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Comments:

VOLATILIZATION	Rivers (hr)	1000	negl	slow	moderate	rapid
(w/o sediment)	Lakes (da)	1000	negl	slow	moderate	rapid

Comments:

PHOTOLYSIS	A. Direct	negl	slow	moderate	rapid
	B. Indirect	negl	slow	moderate	rapid

Comments:

	AOP t(1/2) hr					
ATMOSPHERIC	A. OH	15.7	negl	slow	moderate	rapid
OXIDATION	B. O3	392.9	negl	slow	moderate	rapid

Comments:

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ANALOG DATA FORM

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		RATING		PHOTO	RATING
ANAEROBIC BIODEGRADATION	Ultimate	4		DIRECT	
	Primary			INDIRECT	

Comments:

			AT OX	
HYDROLYSIS	A.		OH	
(pH 7, 25 C)	B.		O3	

Comments:

SORPTION TO SOIL & SEDIMENT	4		
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Comments:

MIGRATION TO GROUND WATER	4		Persist/Bioacc	
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BIO COMMENT

	Nano:	MOL WT	FORM
Structure:			
			Log Kow

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% 25

Sorp 1-2

Strip 3

Rem 4

Dest

Ult 4

Prim

LEGEND FOR NEW CHEMICALS EXPOSURE REPORT

This new chemicals exposure report was prepared by the Exposure Assessment Branch (EAB) of the Economics, Exposure and Technology Division, Office of Pollution Prevention and Toxics, USEPA.

The goals of these reports are to calculate conservative (protective) estimates of exposure endpoints for consumers, the general population, and the environment.

For each exposure scenario to industrial releases, the following three endpoints are calculated:

- (1) maximum possible acute concentrations and doses
- (2) maximum possible chronic concentrations and doses
- (3) for water releases ≥ 20 days, the probability of exceedence of the aquatic concentration of concern

These endpoints are identified by abbreviations on the Release Activity line, e.g., (1) **max ADR**, (2) **max LADD**, (3) **max PDM**. Depending on the release inputs, these endpoints may be calculated and presented on the same page or different pages. That is, a release activity ID of *mfg; max ADR, max PDM, max LADD* indicates that all the exposure endpoints were calculated from common manufacturing release values; conversely, a release activity ID of *mfg & proc; max ADR* indicates that only the maximum acute exposure values were calculated for manufacturing and processing releases that occurred at the same site.

For each consumer product use exposure scenario, whether exposure is to the user directly or to the general population/environment, the maximum exposure values are calculated and presented together.

In addition to the exposure values above, EPA policy directs that exposure and release values be compared to criteria threshold values for Exposure-based and PBT Exposure-based cases.

Exposure-based (YX) cases (those with $\geq 100,000$ kg/yr production volume)

Criteria are exceeded under the following conditions:

- Presence in consumer product with likely exposure
- $\geq 3E-3$ mg/kg/d exposure via air, fish ingestion or drinking water
- $\geq 10,000$ kg/yr release to environment (post-treatment)
- $\geq 1,000$ kg/yr release to water (post-treatment)

Persistent, Bioaccumulative, Toxic (PBT) chemicals of P2B2 rating or higher and production volume $\geq 20,000$ kg/yr

Criteria are exceeded as for YX cases, with the following differences:

- $\geq 2,000$ kg/yr release to environment (post-treatment)
- ≥ 200 kg/yr release to water (post-treatment)

Bolding rules in the Report: Values for endpoints above that are also health or eco concerns are bolded.

11/20/07 FINAL

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: L080037

Assessor: Delpire

ENVIRONMENTAL RELEASES

Scenario#: 1

Number of Release Sites: 1

Release Activity: Max ADR, Max LADD/LADC

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
Total Releases:	(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)

	Non-sludge/Sludge			
Release Days/yr:				
Per Site Release:	(kg/site/day)	(kg/site/day)	(kg/site/day)	(kg/site/day)

Remarks:

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CHEMICAL ID: L080037

SITE-SPECIFIC HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES: LAKES, BAYS, ESTUARIES, AND OCEANS		
SCENARIO #: 1	RELEASE ACTIVITY: Max ADR, Max LADD/LADC, Max PDM	
FACILITY NAME: [REDACTED]		
FACILITY LOCATION: [REDACTED]		
RECEIVING WATER NAME: [REDACTED]		
REACH NUMBER: [REDACTED]	FACILITY ON REACH: [REDACTED]	DISCHARGE TYPE: [REDACTED]
NPDES PERMIT #: [REDACTED]	EXPOSED POPULATION: Adult	

WWT REMOVAL (%)	RELEASE DAYS	PLANT FLOW (MLD)	PRETREAT RELEASE (kg/site/day)	POST-TREAT RELEASE (kg/site/day)	BCF (L/kg)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

AQUATIC EXPOSURE ESTIMATES		
MIXING ZONE	DILUTION FACTOR	WATER CONCENTRATION (ug/L)
ACUTE SCENARIO	1.00	1131.09
CHRONIC SCENARIO	1.00	1131.09

FISH INGESTION EXPOSURE ESTIMATES					
Exposure Units	Results	ASSUMPTIONS			
		ED (years)	AT (years)	BW (kg)	IR (g/day)
Cancer					
LADD _{pot} (mg/kg/day)	8.18E-05	30.00	75.00	71.80	6.00
LADC _{pot} (mg/kg)	0.98	30.00	75.00	NA	NA
Acute					
ADR _{pot} (mg/kg/day)	6.42E-03	NA	1 day	71.80	129.00

Lakes Comments:

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DRINKING WATER EXPOSURE ESTIMATES FROM LANDFILL RELEASES

SCENARIO #: 1

ACTIVITY: Max ADR, Max LADD/LADC, Max PDM

RELEASE DESCRIPTION:

EXPOSED POPULATION: Adult

NUMBER OF SITES	NON-SLUDGE LANDFILL RELEASE AND DAYS OF RELEASE (kg/site/day)/(days)	LANDFILLED SLUDGE ¹ AND DAYS OF RELEASE (kg/site/day)/(days)	MIGRATION DESCRIPTOR ²	ADSORPTION TO WASTEWATER SLUDGE (%)	DRINKING WATER TREATMENT (%)
1	1	1	1	1	100

¹ Landfilled sludge equals the fraction adsorbed to wastewater treatment sludge times the surface water pre-treatment release.

² Migration Descriptor Log K_{oc} Groundwater Concentration (GWC) (mg/L per kg release)

Negligible	no migration	None
Negligible to slow	> 4.5	3.21E-6
Slow	<4.5 to 3.5	2.67E-5
Moderate	<3.5 to 2.5	5.95E-5
Rapid	<2.5	7.55E-5

Exposure Units	Results	ASSUMPTIONS			
		ED (years)	AT (years)	BW (kg)	IR (L/day)
Cancer					
LADD _{pot} (mg/kg/day)	7.43E-05	30.00	75.00	71.80	1.40
LADC _{pot} (mg/L)	3.81E-03	30.00	75.00	NA	NA

REMARKS:

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INHALATION EXPOSURE ESTIMATES (POST-TREATMENT)
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SCENARIO #: 1

RELEASE ACTIVITY: [REDACTED] Max ADR, Max LADD/LADC, Max PDM

RELEASE DESCRIPTION:

METHOD OF CALCULATION: Screen3

EXPOSED POPULATION: Adult

Number of Sites: [REDACTED]

Per Site Fugitive Release: [REDACTED] kg/site/day

Fugitive Release Days per Year: [REDACTED] days

% Removal via Fugitive Release: [REDACTED] %

Total Fugitive Release: [REDACTED] kg/yr

Max Annual Average Air Concentration (Fugitive): 4.87 $\mu\text{g}/\text{m}^3$ Max 24 Hour Average Air Concentration (Fugitive): 88.80 $\mu\text{g}/\text{m}^3$

Exposure Units		Results (Fugitive)	ASSUMPTIONS			
			ED (years)	AT (years)	BW (kg)	Inh. Rate (m ³ /hr)
Cancer						
LADD _{pot} (mg/kg/day)		3.58E-04	30.00	75.00	71.80	0.55
LADC _{pot} (mg/m ³)		1.95E-03	30.00	75.00	NA	NA
Acute						
ADR _{pot} (mg/kg/day)		1.63E-02	NA	1 day	71.80	0.55

Inhalation Comments:

Stack Parameter Data

Stack Height	10.00	m
Inside Stack Diameter:	0.10	m
Stack Gas Exit Velocity:	0.10	m/sec
Stack Gas Temperature:	293.00	K

Fugitive Parameter Data

Release Height:	3.00	m
Length of Release Opening:	10.00	m
Width of Release Opening:	10.00	m

Meteorological and Terrain Information:

Surrounding Land Use:	Rural
Terrain Height:	0.00 m
Distance to Residence of Interest:	100.00 m
Meteorological Class:	Full
Stability Class:	NA
Wind Speed:	NA

Downwash Information:

Facility Length:	NA	m
Facility Width:	NA	m
Facility Height:	NA	m